50761
USFS R6
#15-20

Forest Pest Management

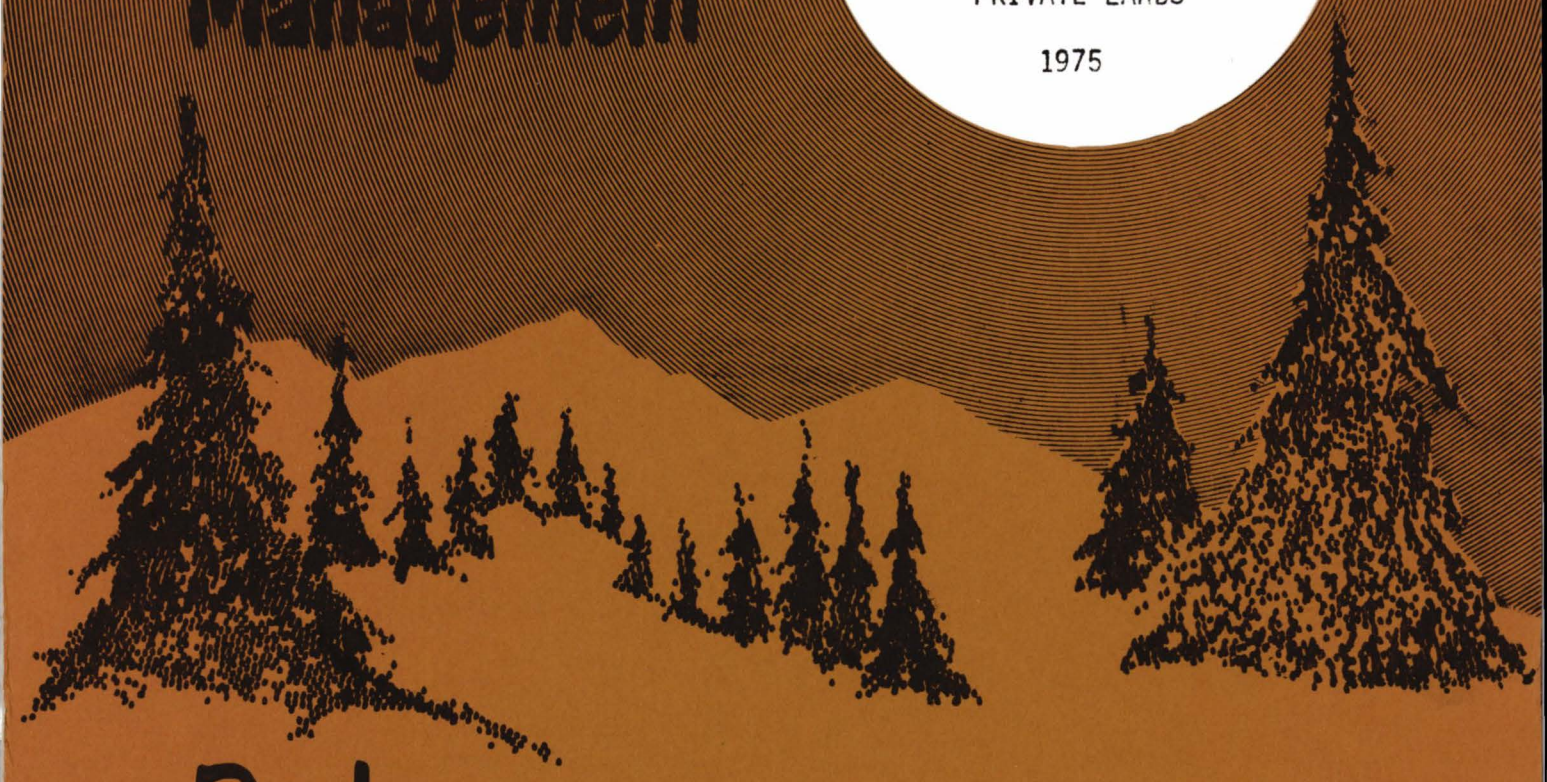
BIOLOGICAL
EVALUATION R2-75-20

MOUNTAIN PINE BEETLE

COLORADO MIDDLE PARK

ARAPAHO-ROOSEVELT NATIONAL
FOREST, BLM, STATE AND
PRIVATE LANDS

1975



Rocky Mountain Region

U.S. Department of Agriculture Forest Service

LIBRARY
JUN 21 1978
ROCKY MOUNTAIN STATION

BIOLOGICAL
EVALUATION R2-75-20

MOUNTAIN PINE BEETLE

COLORADO MIDDLE PARK

ARAPAHO-ROOSEVELT NATIONAL
FOREST, BLM, STATE AND
PRIVATE LANDS

1975

PREPARED BY: DONN B. CAHILL
EVALUATION GROUP LEADER

APPROVED BY:

G. L. DOWNING
Staff Director
Forest Pest Management

S. H. HANKS
Deputy Regional Forester
State and Private Forestry

BIOLOGICAL EVALUATION

MOUNTAIN PINE BEETLE

COLORADO MIDDLE PARK

During the months of July and August, Donn Cahill made three different trips to the Middle Park mountain pine beetle infestation area. These trips involved personnel from BLM and the Forest Service. One trip was a stand survey of lodgepole pine northwest of Big Meadow on National Forest land.

Mountain pine beetle, Dendroctonus ponderosae Hopk., has been in epidemic status for a number of years in Middle Park lodgepole pine, Pinus contorta, Dougl., stands. The losses were found to be at a high level on lands within different ownerships in the Hot Sulphur and Granby area in the Colorado Middle Park. This evaluation was conducted primarily on Federal Lands (BLM and N.F.S.). The results and recommendations generally apply to all lands within the Middle Park area.

The present control efforts have involved timber sales and salvage sales. The timber sales have been done by clear cut and partial cutting methods. In most cases, the partial cutting guidelines are following the R.R. Alexander report on Partial Cutting Practices in Old-Growth Lodgepole Pine.[1] All land managers should implement these management practices at every opportunity. Private landowners should be encouraged to contact the Colorado State Forest Service for technical assistance in implementing these management guidelines.

DISCUSSION

At this time the only specific data collected is from aerial sketch mapping and ground surveys of stand conditions for DBH and phloem thickness. From field observations and stand condition surveys, it appears the mountain pine beetle is still epidemic in the lower elevation commercial sawlog stands.

Tree mortality caused by mountain pine beetle has remained low within higher elevation stands. Amman, Baker, and Stipe[2] show the relation of lodgepole pine mortality caused by the mountain pine beetle to elevation. In the

---

[1] Alexander, Robert R., Partial Cutting Practices in Old-Growth Lodgepole Pine, RM 92 and RM 92A, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

[2] Amman, Gene D., Bruce H. Baker, and Lawrence E. Stipe, Lodgepole Pine Losses to Mountain Pine Beetle Related to Elevation, USDA Forest Service, Res. Note Int-171, 1973, Intermountain Forest & Range Experiment Station.

Uinta Mountains lodgepole pine stand mortality by mountain pine beetle in relation to elevation was 36% mortality at 8700 feet and only 10% mortality at 9700 feet.

The Uinta Mountains in Utah are located at 40° latitude which is very close to the latitude of the North Park mountain pine beetle outbreak. Safranyik, Shrimpton, and Whitney[3] reported a similar elevation influence on mountain pine beetle outbreaks in Canada. They also found outbreaks to be principally associated with two other stand characteristics. These characteristics are: (1) stands over 80 years and (2) stands with many trees over 10 inches in diameter.

It appears the present effort should be directed to older lodgepole pine stands in lower elevational zones that have many trees 10" DBH and above. Stands of these characteristics with current mountain pine beetle activity should be treated before going into similar stands without current mountain pine beetle activity. It appears that at this time, stands above 9500 feet are fairly free from mountain pine beetle.

[3] Safranyik, L., D. M. Shrimpton, and H. S. Whitney, Management of Lodgepole Pine to Reduce the Mountain Beetle, Forestry Technical Report 1, 1974, Environmental Canada, Forestry Service, Pacific Forest Research Centre.